

# To the knowledge of Macroheterocera of Southeast Asia and New Guinea. III. Tiger moths (Lepidoptera: Arctiidae: Arctiinae) of Papua Province, Indonesia

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**Abstract:** A small collection containing 18 species of the tiger moth subfamily Arctiinae from the western part of the island of New Guinea is presented and illustrated.

**Key words:** Lepidoptera, Arctiidae, Arctiinae, Indonesia, Papua Province, New Guinea.

## Introduction

This publication is the third in a series<sup>1</sup> dedicated to Macroheterocera of Southeast Asia and New Guinea. It deals with a small collection of Tiger moths (Lepidoptera, Arctiidae) taken during a two-month long excursion to New Guinea by the first author together with V.V. Sinyaev (Moscow, Russia). The places and dates of collection are described in detail and illustrated in our previous publication in this book (page 157, plate 5).

Unfortunately, there has never been a revision or review of the Tiger moths populating New Guinea. Scattered data on the taxonomy and faunistic records of this very attractive group of moths are present in numerous publications listed at the end of this article. It is noteworthy; however, that fairly complete information concerning this moth family is available at <http://www.papua-insects.nl/insect%20orders/Lepidoptera/Erebidae/Arctiinae/Arctiinae%20list.htm> (De Vos 2013).

In our studies, we do not accept the proposed classification of Lepidoptera which is based on molecular data from a few individual genes. Instead we refer to our previous publication in

the present volume (Gorbunov, Zamesov 2014a). In addition, we have nothing against dividing the family Noctuidae *sensu classico* into two separate families: Erebidae and Noctuidae, but we disagree with reducing the ranks of such well-defined and we believe natural family-level taxa as, for example, Arctiidae, Aganaidae or Lymantriidae.

Because Arctiidae species tend to be widespread, with numerous subspecies or forms for nearly all of them delimited, we have restricted the synonymy lists mainly to the taxa described from New Guinea and neighbouring archipelagos. In addition, we have excluded all homonyms and infrasubspecific names. All synonyms in the text are given in quotation marks because they have been checked in original publications.

We have found 18 species representing eight genera which is about 31% and 72.7% of Tiger moths fauna of the Indonesian Papua, respectively. All of them have been collected in new localities, thus providing new faunistic records. All taxa mentioned and illustrated herein are housed in the collection of the first author.

## Material and methods

Specimens examined for this study were collected by the first author (see above) using two vertical nylon sheets, mainly from 7 p.m. to 6 a.m. For both sheets a 250 watt blended-light lamp

1 – The first publication in the series concerns the family Aganaidae (Lepidoptera: Noctuoidea) of Papua Province, Indonesia. It is published in the present volume on pp 157-165, pls 5-7. The second publication is on the family Sphingidae of Papua Province, Indonesia. Its is published in the present volume on pp 167-185, pls 8-12.



powered by a portable inverter generator Fubag® IT 1000 was used. The images of specimens were taken with a digital camera Sony® α450 with a lens Minolta® AF 50macro. The pictures were arranged with Adobe® Photoshop® CS5.

**Key to the genera of Arctiinae Leach, 1815 (Lepidoptera: Arctiidae) of Papua Province, Indonesia by external characters**

- 1 Proboscis fully developed, functional ..... 2
  - Proboscis reduced, non-functional ..... 7
- 2 Forewing with more or less developed semitransparent area ..... *Amerila* Walker, 1855
  - Forewing without semitransparent area ..... 3
- 3 Wings with yellow, orange and red scales ..... 4
  - Wings with dark brown or black and white scales ... 6
- 4 Forewing with red spots .....
  - ..... *Utetheisa* Hübner, 1819 ["1816"], part
  - Forewing with yellow or orange scales ..... 5
- 5 Forewing dark brown with a broad, oblique, orange band ..... *Heliozona* Hampson, 1901
  - Forewing yellow with brown spots .....
    - ..... *Argina* Hübner, 1819 ["1816"]
- 6 Abdomen dorsally without contrast coloured strips or spots, if spots present then outer margin of hindwing with white spots .....
  - ..... *Utetheisa* Hübner, 1819 ["1816"], part
  - Abdomen dorsally with contrast coloured strips or spots; outer margin of hindwing without white spots .....
    - ..... *Nyctemera* Hübner, 1820 ["1816"]
- 7 Forewing colour pattern with longitudinal stripe or bands ..... 8
  - Forewing colour pattern with spots ..... 9
- 8 Wings white; forewing with red or orange costal margin ..... *Paramsacta* Hulstaert, 1923
  - Wings ochre to light grey-brown; forewing with a broad, black, discontinuous band medially .....
    - ..... *Cretonotos* Hübner, 1819 ["1816"]
- 9 Hind tibia with a pair of spurs .. *Lemyra* Walker, 1856
  - Hind tibia with two pairs of spurs ..... 10
- 10 Forewing with an oblique row of rounded black spots; hindwing with a black discal spot only .....
  - ..... *Nicetosoma* De Vos, 2011
  - Colour pattern of both fore- and hindwing different ....
    - .. *Spilosoma* Curtis, 1825 and *Spilaethalida* Dubatolov, De Vos & Daawia, 2007 <sup>2</sup>

**List of the Arctiinae Leach, 1815 (Lepidoptera: Arctiidae) of Papua Province, Indonesia**

2 – These two genera cannot be separated by the external characters.



**Spilosoma Curtis, 1825**

"*Spilosoma* ..." - Curtis 1825: pl. 92. Type species: *Bombyx menthastri* [Denis & Schiffermüller], 1775 [= *Phalaena lubricipeda* Linnaeus, 1758], by original designation.

= "Genus *Rhagonis*, n. g." - Walker 1862: 170. Type species: *Rhagonis bicolor* Walker, 1862 [= *Arctia vagans* Boisduval, 1852], by monotypy.

= "*Rhodareas*." - Kirby 1892: 254. Type species: *Arctia melanopsis* Walker, 1864, by subsequent designation by Watson et al. 1980: 170.

Note: Unfortunately, at present there is no consensus concerning the composition and structure of the genus. What is clear is that "it contains a number of distinctive groups and is probably paraphyletic (Holloway 1988: 41). Usually the genus is restricted to a few species groups (De Vos, Suhartawan 2011). We can only state that the systematics of this genus is far from perfect and it requires further careful research. According to the website of the British Museum (<http://www.nhm.ac.uk>), there are more than two dozen junior synonyms of *Spilosoma* Curtis, but we believe there is no need to quote all of them here.

At present, 24 species of the genus have been collected in Indonesian Papua (De Vos 2013). We have on hands only three species from the province. Distribution: We think this genus is ubiquitous, occurring throughout the world.

**Spilosoma dinawa (Bethune-Baker, 1904) (Plate 120 figs 1-2)**

"*Diacrisia dinawa* spec. nov." - Bethune-Baker 1904: 413, pl. 5, fig. 25. Type locality: "Papua New Guinea: British New Guinea, Dinawa, 4000 ft, ..." [= Papua New Guinea: Central Province, Dinawa], by lectotype fixed by De Vos and Suhartawan (2011: 304).

= "*Diacrisia ochrifrons*, sp. n." - Joicey & Talbot 1917: 50. Type locality: "Wandammen Mtns., 3000-4000 feet, ..." [= Indonesia: West Papua, Wandammen Peninsula, Wandammen Mts].

Material examined: 1♀ (Plate 120 figs 1-2), Indonesia, Papua, Genyem env., 02°38'S, 140°10'E, 500 m, 25.I-02.II.2009.

Note: De Vos and Suhartawan (2011) have revised this highly variable species.

Distribution: This species seems to be an endemic to New Guinea.

**Spilosoma costata (Boisduval, 1832) (Plate 120 figs 3-6)**

"*C.[helonia] costata*. Boisd." - Boisduval 1832: 213, pl.





5, fig. 6. Type locality: "... la Nouvelle-Irlande. ... du Port-Praslin." [= Papua New Guinea: New Ireland province, Port Praslin].

= "*D.[iacrisia] costata vivida* subspec. nov." - Rothschild 1910: 139. Type locality: "Papua New Guinea: Fergusson Island, ..." [= Papua New Guinea: Milne Bay Province, Fergusson Island].

Material examined: 1♂, Indonesia, Papua, Genyem env., 02°38'S, 140°10'E, 500 m, 30.XII.2008–02.I.2009; 2♂, same locality, 31.XII.2008; 3♂, same locality, 25.I.2009; 2♂, same locality, 25–26.I.2009; 1♂ (Plate 120 figs 3-4), same locality, 25.I–02.II.2009; 2♂, same locality, 25.I–02.II.2009; 1♀ (Plate 120 figs 5-6), same locality, 30.XII.2008–02.I.2009.

Note: It can be easily distinguished from the New Guinean congener by the specific pattern of the forewing which is yellow with brown veins. This species has been revised by De Vos and Suhartawan (2011).

Distribution: New Guinea and the islands off to the northeast (the Bismarck Archipelago, D'Entrecasteaux Islands).

***Spilosoma styx* (Bethune-Baker, 1910)** (Plate 120 figs 13-14)

"*Diacrisia styx*, sp. n." - Bethune-Baker 1910: 443. Type locality: "Ninay Valley (Arfak Mountains), 3600 feet." [= Indonesia: West Papua, Arfak Mts, Neney Valley].

= "*Spilosoma styx* B.-Bkr. (1910) *albistriga* subsp. nov." - Talbot 1929: 88. Type locality: "Dutch New Guinea, Weyland Mountains, Nomnaginé, 25 miles south of Wangaar" [= Indonesia: Papua, Kobowre (Weyland) Mts].

Material examined: 1♂ (Plate 120 figs 13-14), Indonesia, Papua, Taritatu riv., SE from Dabra, 03°15'S, 138°34'E, 60 m, 10–13.I.2009.

Note: This species can easily be distinguished from the other Tiger moths of New Guinea by the wing coloration. It seems to be a rare species. At present, only a few specimens are known, all from the western part of the island of New Guinea. This species is divided into two subspecies, which we think this is hardly justified. De Vos and Suhartawan (2011) have revised this species.

Distribution: The species seems to be an endemic to the Indonesian part of New Guinea.

***Spilaethalida Dubatolov, De Vos et Daawia, 2007***

"*Spilaethalida* Dubatolov, De Vos & Daawia, gen. n." - Dubatolov et al. 2007: 324. Type species: *Spilarctia turbida* Butler, 1882, by original designation.

Note: This genus has been separated from

*Spilosoma* Curtis by the structure of the male genitalia. Those authors have included only two species into the genus, the second species (*Spilosoma erythrastis* Meyrick, 1886) only due to its external resemblance to the type species (Dubatolov et al. 2007). Only a single species occurs in New Guinea. It is represented in our material.

Distribution: Restricted to New Guinea and northeastern Australia.

***Spilaethalida turbida* (Butler, 1882)** (Plate 120 figs 7-12)

"*Spilarctia turbida*, sp. n." - Butler 1882: 158. Type locality: "Duke-of-York Island." [= Papua New Guinea: East New Britain Province, Duke of York Island].

= "*Spilarctia Meeki*, sp. n." - Druce 1899: 234. Type locality: "Trobriand Island, Kiriwini ..." [= Papua New Guinea, Milne Bay Province, Kiriwina Island].

= "*D.[iacrisia] turbida woodlarkiana* subspec. nov." - Rothschild 1910: 145. Type locality: "... Woodlark, ..." [= Papua New Guinea, Milne Bay Province, Woodlark Island], by lectotype fixed by De Vos and Suhartawan, (2011: 328).

= "*D.[iacrisia] turbida montana* subspec. nov." - Rothschild 1910: 145. Type locality: "Angabunga R., affl. of St. Joseph R., Brit. N. Guinea, 6000 ft., ..." [= Papua New Guinea, Central Province, Angabunga River], by lectotype fixed by De Vos and Suhartawan (2011: 328).

= "*D.[iacrisia] turbida sordidior* subspec. nov." - Rothschild 1910: 146. Type locality: "... Biagi, Mambare R., 5000 ft., ..." [= Papua New Guinea, Oro Province, Mambare River], by lectotype fixed by De Vos and Suhartawan (2011: 327).

= "*D.[iacrisia] turbida alpina* nom. nov. (= *montana* Rothschild.)" - Rothschild 1914: 247, pl. 23, row a, b. Type locality: "Angabunga R., affl. of St. Joseph R., Brit. N. Guinea, 6000 ft., ..." [= Papua New Guinea, Central Province, Angabunga River], by lectotype of *Diacrisia turbida montana* Rothschild 1910 designated (according to art. 72.7 ICZN (ICZN, 1999) and fixed by De Vos and Suhartawan (2011: 328).

Material examined: 1♂ (Plate 120 figs 11-12), Indonesia, Papua, Sentani env., Cyclops Mts., 02°32'S, 140°28'E, 300 m, 26–29.XII.2008; 1♂ (Plate 120 figs 7-8), same locality, 04–06.II.2009; 1♂, same locality, 04–06.II.2009; 2♀, same locality, 26–29.XII.2008; 1♀ (Plate 120 figs 9-10), same locality and date; 1♂, Indonesia, Papua, Genyem env., 02°38'S, 140°10'E, 500 m, 25–26.I.2009; 1♂, same locality, 25.I–02.II.2009.

Note: This quite variable species has been revised by De Vos and Suhartawan (2011), who divided it into two subspecies: the nominotypical one and



*meeki* Druce, 1899. The nominotypical subspecies is known to occur through the mainland of New Guinea.

Distribution: This species is widespread in New Guinea and the islands off to the northeast.

### **Lemyra Walker, 1856**

“Genus *Lemyra*.” - Walker 1856: 1690. Type species: *Lemyra extensa* Walker, 1856, by monotypy.

= “Genus *Thyrgorina*.” - Walker, 1864: 317. Type species: *Thyrgorina spilosomata* Walker, 1864, by monotypy.

= “Genus *Echlida*.” - Walker, 1865: 386. Type species: *Echlida subjecta* Walker, 1865, by monotypy.

= “Genus *Icambosida*.” - Walker 1865: 400. Type species: *Icambosida nigrifrons* Walker, 1865, by monotypy.

= “*Thanatarctia*, n. gen.” - Butler 1877: 395. Type species: *Thanatarctia infernalis* Butler, 1877, by original designation.

= “*Cabrisa*, gen. nov.” - Moore 1879a: 41. Type species: *Cabrisa venosa* Moore, 1879, by monotypy.

= “*Challa*, n. g.” - Moore, 1879b: 398. Type species: *Challa discalis* Moore, 1879, by subsequent designation by Kirby (1892: 359).

Note: Superficially the species of this genus resemble those of the genera *Spilosoma* Curtis, 1825 and *Spilaethalida* Dubatolov, De Vos et Daavia, 2007. *Lemyra* Walker currently contains ca 70 species, revised by Thomas (1990).

At present three species are known to occur in Indonesian Papua. We have on hands only one species from the province.

Distribution: The genus occurs in the eastern Palaearctic, in the Oriental and the northern part of the Australian regions.

### **Lemyra punctatostrigata (Bethune-Baker, 1904)** (Plate 120 figs 15-16)

“*Maenas punctatostrigata* spec. nov.” - Bethune-Baker 1904: 142, pl. 6, fig. 15. Type locality: “Mount Kebea, Dinawa, Aroa River ...” [= Papua New Guinea: Central Province, Dinawa].

= “*Spilosoma avola* spec. nov.” - Bethune-Baker 1908: 190. Type locality: “Avola, 6000 ft., ...” [= Papua New Guinea].

= “*Maenas punctatostrigata* B.-Bkr. (1904) *ceramensis* subsp. nov.” - Talbot 1929: 89. Type locality: “Central Ceram, ...” [= Indonesia: Maluku, Seram Island].

Material examined: 1♂, Indonesia, Papua, Genyem env., 02°38’S, 140°10’E, 500 m, 30.XII.2008–02.I.2009; 1♂, same locality, 31.XII.2008 (Plate 120 figs 15-16).

Note: It is a rather rare species known from a few

localities only (De Vos 2013).

Distribution: The island of Seram of Maluku Province of Indonesia, New Guinea. Probably it inhabits other islands of the Maluku Archipelago as well.

### **Nicetosoma De Vos, 2011**

“*Nicetosoma* gen. nov.” - De Vos 2011: 111. Type species: *Phalaena niceta* Stoll, 1782, by original designation.

Note: The species of the genus differ from those of the genus *Spilosoma* Curtis, 1825 and other related genera of the tribe Spilosomini by the coloration and pattern of the wings. Beside that, *Necetosoma* species show sexual dimorphism. The female is more large and robust with broader forewing and curved costal margin. At present the genus contains nine species (De Vos 2011), of which two are known to be from New Guinea. We have on hands a single species only.

Distribution: It occurs on New Guinea and surrounding islands ranging from North Maluku Islands in the west to Solomon Islands in the east.

### **Nicetosoma papuana (Rothschild, 1910)** (Plate 120 figs 17-24)

“*D.[iacrisia] niceta papuana* subsp. nov.” - Rothschild 1910: 152. Type locality: “Papua New Guinea: Deutsch Neu Guinea, Sattelberg, ...” [= Papua New Guinea: Morobe Province, Sattelberg], by lectotype fixed by De Vos (2011: 118).

= “*D.[iacrisia] niceta intermedia* subsp. nov.” - Rothschild 1910: 153. Type locality: “Papua New Guinea: British New Guinea, Milne Bay, ...” [= Papua New Guinea: Milne Bay Province], by lectotype fixed by De Vos (2011: 118).

= “*Diacrisia niceta mysolica* subsp. nov.” - Rothschild 1915: 210. Type locality: “Misol.” [= Indonesia: West Papua, Raja Ampat Islands, Misool Island].

= “*Diacrisia niceta pallida* subsp. nov.” - Rothschild 1916: 333. Type locality: “Vulcan Island” [= Papua New Guinea: Manus Province, Manus Island].

Material examined: 1♂, Indonesia, Papua, Sentani env., Cyclops Mts., 02°32’S, 140°28’E, 300 m, 28.XII.2008; 1♂ (Plate 120 figs 19-20), same locality, 26–29.XII.2008; 4♂, Indonesia, Papua, Genyem env., 02°38’S, 140°10’E, 500 m, 30.XII.2008–02.I.2009; 1♂, same locality, 31.XII.2008; 1♂, same locality, 25.I.2009; 1♂ (Plate 120 figs 17-18), same locality, 25–26.I.2009; 1♂, same locality and date; 1♂ (Plate 120 figs 21-22), same locality, 25.I–02.II.2009; 1♂, same locality and date; 1♀ (Plate 120 figs 23-24), Indonesia,





Papua, Taritatu riv., SE of Dabra, 03°15'S, 138°34'E, 60 m, 05–16.I.2009.

Note: This taxon has been elevated to a full species and revised by De Vos (2011). It is a rather variable species both in coloration and in size.

Distribution: It inhabits New Guinea and islands off to the west (Aru Islands, Raja Ampat Islands).

### **Argina Hübner, 1819 ["1816"]**

"Argina ..." - Hübner 1819 ["1816"]: 167. Type species: *Phalaena cribraria* Clerck, 1764 ["1759"] [nec *Phalaena cribraria* Linnaeus, 1758] [= *Phalaena astrea* Drury, 1773], by subsequent designation by Kirby (1892: 350).

Note: The maculate wings pattern and the shape of the anal area of the hindwing in males cannot confuse this genus with any Arctiidae of Indonesian Papua. At present, it contains only three species, of which one is known to be from New Guinea.

Distribution: Afrotropical, Oriental and Australian regions from eastern Africa and Madagascar in the west to New Guinea and eastern Australia in the east.

### **Argina astrea (Drury, 1773)** (Plate 121 figs 1-4)

"Astrea ... *Phal.[aena] Noct.[ua]*" - Drury 1773: [91], pl. 6, fig. 3. Type locality: "... from the Gold Coast ... in Africa." (loc. cit.: 11) [= Australia: Queensland, Gold Coast (?)]. = "[*Bombyx*] *Pylotis*." - Fabricius 1775: 585. Type locality: "... in nova Hollandia." [= Australia].

Material examined: 1♂ (Plate 121 figs 1-2), Indonesia, Papua, Sentani env., Cyclops Mts., 02°32'S, 140°28'E, 300 m, 26–29.XII.2008; 1♂ (Plate 121 figs 3-4), same locality, 04–06.II.2009.

Note: The species is extremely variable in wing maculation patterns as well as background coloration. It is divided into two subspecies, of which the nominotypical one inhabits the Oriental and Australian regions.

Distribution: It is widespread in the tropical areas from eastern Africa and Madagascar in the west to New Guinea and eastern Australia in the east.

### **Utetheisa Hübner, 1819 ["1816"]**

"Utetheisa ..." - Hübner 1819 ["1816"]: 168. Type species: *Phalaena ornatrix* Linnaeus, 1758, by subsequent designation by Kirby (1892: 345).

= "*Deiopeia* ..." - Curtis 1827: 169. Type species: *Phalaena pulchella* Linnaeus, 1758, by original designation.

= "*Pitasila*, n. g." - Moore 1877: 599. Type species: *Pitasila leucospilota* Moore, 1877, by monotypy.

= "*Atasca*. Gen. Nov." - Swinhoe 1892: 139. Type species: *Phalaena pellex* Linnaeus, 1758, by subsequent

designation by Roepke (1949: 47).

= "*Exitelica*, nov." - Turner 1921: 160. Type species: *Leptosoma aegrotum* Swinhoe, 1892, by monotypy.

= "Subgenus *Raanya* subgen. n." De Vos 2007b: 81. Type species: *Deilemera albipuncta* Druce, by original designation.

Note: This is a large genus containing ca 60 species. At present, it is divided into four subgenera (De Vos 2007b). Superficially, many of them resemble species of the genus *Nyctemera* Hübner. Only five species from three subgenera have been recorded in New Guinea (De Vos 2013), of which a single species is present in our collection.

Distribution: This genus is distributed worldwide.

### **Utetheisa pellex (Linnaeus, 1758)** (Plate 121 figs 5-16)

"*Phalaena... pellex*." - Linnaeus 1758: 510. Type locality: "In Indiis [East Indies]" [= East India], by lectotype fixed by Mikkola, Honey (1993: 148).

= "*L.[eptosoma] Artemis*. Boisd." - Boisduval 1832: 199. Type locality: "... N. Guinea; ..." [= New Guinea], by lectotype fixed by De Vos (2007b: 70).

= "*Nyctemera simplex*." - Walker 1864: 207. Type locality: "New Guinea."

= "*Deilemera signata*, n. sp." - Butler 1878: 386. Type locality: "Darnley Island ..." [= Australia: Queensland, Darnley Island].

= "*Pseudocallimorpha Doriae*, Oberthür (species nova)." - Oberthür 1880: pl. 4, fig. 2. Type locality: "Nova Guinée, Sorong, ..." (De Vos 2007b: 70) [= Indonesia: West Papua, Sorong].

= "*Deilemera paradelpha*, nov." - Swinhoe 1917: 411. Type locality: "Fergusson D'Entrecasteaux Islae, ..." [= Papua New Guinea: Milne Bay Province, D'Entrecasteaux Islands, Fergusson Island], by lectotype fixed by De Vos (2007b: 70).

Material examined: 1♂ (Plate 121 figs 13-14), Indonesia, Papua, Genyem env., 02°38'S, 140°10'E, 500 m, 31.XII.2008; 1♂, 1♀, same locality and date; 1♂ (Plate 121 figs 11-12), 2♀, same locality 30.XII.2008–02.I.2009; 1♂ (Plate 121 figs 7-8), same locality, 25.I.2009; 1♂, 1♀, same locality and date; 2♂, 1♀, same locality, 25.I–02.II.2009; 1♀ (Plate 121 figs 9-10), same locality, 25–26.I.2009; 1♂ (Plate 121 figs 5-6), same locality, 27–30.I.2009; 1♂, 1♀, same locality and date; 1♀ (Plate 121 figs 15-16), same locality, 25.I–02.II.2009; 1♂, Indonesia, Papua, Taritatu riv., SE from Dabra, 03°15'S, 138°34'E, 60 m, 05–07.I.2009.

Note: This is an extremely variable and common species, revised by De Vos (2007b).



Distribution: It occurs in New Guinea and surrounding islands from Waigeo in the west to Vanuatu in the east, known from Queensland in Australia as well (De Vos 2007b).

**Nyctemera Hübner, 1820 [“1816”]**

“*Nyctemera* ...” - Hübner 1820 [“1816”]: 178. Type species: *Phalaena lacticina* Cramer, 1777, by subsequent designation by Hampson (1894: 46).

= “*Deilemera* ...” - Hübner 1820 [“1816”]: 179. Type species: *Phalaena evergista* Stoll, 1781, by monotypy.

= “*Orphanos* ...” - Hübner 1825 [“1816”]: 306. Type species: *Phalaena tripunctaria* Linnaeus, 1858, by subsequent designation by Wantson et al. (1980: 136).

= “*Leptosomum*,” - Blanchard 1840: 488. Type species: *Leptosoma insulare* Boisduval, 1833, by monotypy.

= “*Agagles* ...” - White 1841: 482. Type species: *Agagles amicus* White, 1841, fixed by monotypy.

= “*Trypheromera*, gen. nov.” - Butler 1881: 45. Type species: *Nyctemera plagifera* Walker, 1854, by original designation.

= “... a sub-genus, ...*Arctata*.” - Roepke 1949: 50. Type species: *Nyctemera arctata* Walker, 1856, by monotypy.

= “... a new subgenus, ...*Coleta*.” - Roepke 1949: 53. Type species: *Phalaena coleta* Stoll, 1781, by monotypy.

= “*Luctuosana* De Vos subgen. nov.” - De Vos in: Dubatolov 2010: 17. Type species: *Leptosoma luctuosum* Snellen van Vollenhoven, 1863, by original designation.

= “*Tritomera* De Vos & Dubatolov subgen. nov.” - De Vos & Dubatolov in: Dubatolov 2010: 18. Type species: *Nyctemera trita* Walker, 1854, by original designation.

Note: This is a rather numerous genus containing somewhat more than 70 species, which are grouped in seven subgenera (De Vos, Dubatolov 2010). Roepke (1949, 1957) has revised the species of the genus mostly from the Southeast Asia. Besides that, there are some important publications concerned some species or species groups of the genus (Holloway 1988; De Vos 1995a & b, 1996, 1997a & b, 2002, 2007a; De Vos, Černý 1999).

At present, 14 species are known from New Guinea, of which we have on hands four species only.

Distribution: This genus distributes in the Oriental and Australian regions from North India in the west to New Zealand in the east.

**Nyctemera groenendaeli De Vos, 1995** (Plate 122 figs 1-2)

“*Nyctemera groenendaeli* spec. nov.” - De Vos 1995: 482, fig. 1. Type locality: “Ampas, W. Irian, ...” [= Indonesia: Papua, Jayapura Regency, Ampas].

Material examined: 1♂ (Plate 122 figs 1-2),

Indonesia, Papua, Genyem env., 02°38’S, 140°10’E, 500 m, 31.XII.2008.

Note: In the original description De Vos wrote that “... only eight specimens are known from the four different localities” and “... *N. groenendaeli* is very likely a rare species” (De Vos 1995: 486).

Distribution: This species seems to be an endemic to the island of New Guinea.

**Nyctemera latimargo (Rothschild, 1915)** (Plate 122 figs 3-4)

“*Deilemera absurdum latimargo* subsp. nov.” - Rothschild 1915a: 78. Type locality: “Dutch New Guinea, Base Camp, Setakwa River, ...” [= Indonesia: Papua, Setakwa River], by lectotype fixed by De Vos (2007a: 49).

Material examined: 1♂ (Plate 122 figs 3-4), Indonesia, Papua, Genyem env., 02°38’S, 140°10’E, 500 m, 31.XII.2008; 1♂, same locality, 27–30.I.2009.

Note: This species was revised by De Vos (2007a).

Distribution: It is an endemic of New Guinea and presently known from few localities in the province of Papua, Indonesia (De Vos 2007a).

**Nyctemera baulus (Boisduval, 1832)** (Plate 121 figs 17-24)

“*L[eptosoma] baulus*. Boisd.” - Boisduval 1832: 200. Type locality: “... à Bourou.” [= Indonesia: Maluku Islands, Buru Island].

= “*Nyctemera alba* Pagenstecher.” - Pagenstecher 1901: 135. Type locality: “... Samoa.” [= Independent State of Samoa].

= “*Nyctemera aluensis*, sp. n.” - Butler 1887: 222. Type locality: “Alu Island ...” [= Solomon Islands, Shortland Island].

= “*Deilemera illustris*, nov.” - Swinhoe 1903: 77. Type locality: “Alu, Solomon Islands.” [=Solomon Islands, Shortland Island].

= “*Deilemera nisa*, nov.” - Swinhoe 1903: 77. Type locality: “Sangir ...” [= Indonesia: North Sulawesi, Sangihe Islands].

Material examined: 1♂ (Plate 121 figs 17-18), 1♀ (Plate 122 figs 23-24), Indonesia, Papua, Genyem env., 02°38’S, 140°10’E, 500 m, 30.XII.2008–02.I.2009; 2♂, 1♀, same locality and date; 4♂, 1♀, same locality, 31.XII.2008; 1♀ (Plate 121 figs 21-22), same locality, 25.I.2009; 3♂, 2♀, same locality and date; 1♂ (Plate 121 figs 19-20), same locality, 25.I–02.II.2009; 2♂, same locality, 27–30.I.2009.

Note: This is a rather common and variable species everywhere throughout its distribution area. At





present it is divided into three or four subspecies, of which the nominotypical one populates the island of New Guinea.

Distribution: It is widespread from the Nicobar Islands of India in the west to Samoa in the east (De Vos 2013).

***Nyctemera evergista* (Stoll, 1781)<sup>3</sup>** (Plate 122 figs 5-12)

“*Evergista. Phaléne* ...” - Stoll in Cramer 1781: 155, pl. 369, fig. E. Type locality: “... l’isle d’Amboine.” [= Indonesia: Maluku, Ambon Island].

= “*L.[eptosoma] aeres*. Boisd.” - Boisduval 1832: 198. Type locality: “... à Bourou, à Offack et à la Nouvelle-Guinée.” [= Indonesia: Maluku, Buru Island; West Papua: Raja Ampat Islands; New Guinea Island].

= “*L.[eptosoma] agagles*. Boisd.” - Boisduval 1832: 198. Type locality: “... à Offack.” [= Indonesia: West Papua, Raja Ampat Islands].

= “*Nyctemera Menes* Feld.” - Felder 1861: 38. Type locality: “Amboina (Felder, 1861: 25)” [= Indonesia: Maluku, Ambon Island].

= “*Nyctemera intercosa*.” - Walker 1864: 205. Type locality: “Amboina.” [= Indonesia: Maluku, Ambon Island].

= “*Nyctemera mutabilis*.” - Walker 1864: 206. Type locality: “Amboina.” [= Indonesia: Maluku, Ambon Island].

= “*Deilemera uniplaga*, nov.” - Swinhoe 1903: 61, pl. 3, fig. 2. Type locality: “Fergusson Isl. ...” [= Papua New Guinea: Milne Bay Province, Fergusson Island].

= *Nyctemera evergista bismarckiana* ssp. n. - De Vos 2002: 24, figs 33, 34. Type locality: “New Ireland, ...” [= Papua New Guinea: New Ireland Province, New Ireland Island].

Material examined: 1♂, Indonesia, Papua, Sentani env., Cyclops Mts., 02°32’S, 140°28’E, 300 m, 26–29.XII.2008; 1♂ (Plate 122 figs 5-6), 1♂ (Plate 122 figs 9-10), Indonesia, Papua, Genyem env., 02°38’S, 140°10’E, 500 m, 31.XII.2008; 1♂ (Plate 122 figs 7-8), 1♀ (Plate 122 figs 11-12), same locality, 30.XII.2008–02.I.2009; 2♂, same locality and date; 2♂ & 4♀, same locality, 25.I–02.II.2009; 1♂, same locality, 30.I.2009.

Note: De Vos (2002) revised this species together with its relatives which form a distinct subgenus, *Deilemera* Hübner, 1820 [“1816”]. At present this subgenus contains seven species. For the time

3 – According to Opinion 516 of the International Commission on Zoological Nomenclature (ICZN 1958), pp 91-164 and plates CCCXXVII–CCCLXXII of the fourth volume of Cramer’s “*Uitlandsche Kapellen*” were published in 1781, not 1782 as cited by De Vos (2002, 2013).

being, *N. evergista* is divided into four subspecies. This is a rather variable in colour pattern species.

Distribution: It populates New Guinea and surrounding islands from Buru and Seram in the west to New Britain and the D’Entrecasteaux Islands in the east.

***Amerila* Walker, 1855**

“*Amerila*.” - Walker 1855: 725. Type species: *Sphinx astreus* Drury, 1773, by subsequent designation by Hampson (1900: 60).

= “*Amblythyris Radama*, n. sp.” - Mabille 1879: 137. Type species: *Amblythyris radama* Mabille, 1879 [= *Chelonia madagascariensis* Boisduval, 1847], by subsequent designation by Hampson (1900: 60), but as *Aganais vitripennis* Blanchard, 1861 [= *Amblythyris radama* Mabille, 1879].

= “*Phryganeomorpha. Mihi*.” - Wallengren 1858: 214. Type species: *Chelonia madagascariensis* Boisduval, 1847, by original designation.

*Rhodogastria* auct., nec *Rhodogastria* Hübner, 1819 [“1816”].

Note: This is a well-recognized genus which contains from 40 to 50 species (Häuser 1993). Currently only six species are known from the island of New Guinea (De Vos 2013). All of them are present in our collection.

Distribution: This genus inhabits the Afrotropical, Oriental and Australian regions.

***Amerila arthusibertrandi* (Guérin-Méneville, 1831)<sup>4</sup>** (Plate 122 figs 13-16)

“*Lithosia Arthus Bertrand*. Guér.” - Guérin-Méneville 1831: 284, pl. 19, fig. 5. Type locality: “... d’Offak, dans la Terre des Papous ...” [Indonesia: West Papua, Raja Ampat Islands, Waigeo Island].

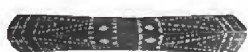
= “*C.[helonia] Saucia*. Boisd.” - Boisduval 1832: 214. Type locality: “... à Offack” [= Indonesia: West Papua, Raja Ampat Islands].

= “*Rhodogastria roseibarba*, sp. n.” - Druce 1901: 74. Type locality: “Sooloo Islands ...” [= Philippines: Sulu Archipelago].

Material examined: 1♂ (Plate 122 figs 13-14), Indonesia, Papua, Genyem env., 02°38’S, 140°10’E, 500 m, 25.I–02.II.2009; 1♂, same locality and date; 1♀, same locality, 30.XII.2008–02.I.2009; 1♀ (Plate 122 figs 15-16), same locality, 25–26.I.2009.

Note: This species superficially is similar to *A.*

4 – According to Sherborn & Woodward (1901: 217-319) the 2<sup>nd</sup> part of the 2<sup>nd</sup> volume of this work was published on 10 December 1831.



*atreus* (Drury, 1773) and *A. timolis* (Rithschild, 1914), but can be distinguished from them by the triangular forewing. It is a rather common species. Distribution: From Sulawesi in the west to the Bismarck Archipelago in the east.

***Amerila astreus* (Drury, 1773)** (Plate 124 figs 1-8) "*Astreus* ... *Sph.[inx]*" - Drury 1773: [91], pl. 28, fig. 4. Type locality: "Bengal" (loc. cit.: 50) [= East India or Bangladesh].

= "*Cretonotos communis*." - Walker 1864: 283. Type locality: "Bourn." [= Indonesia: Maluku Islands, Buru Island].

= "*Rhodogastria astreas* [sic!] *hainana* subsp. nov." - Rothschild 1910: 185. Type locality: "Cheng-May, Hainan, ... Cochin China ..." [= China: Hainan; southern Vietnam].

= "*Rhodogastria astreas* [sic!] *curtisi* subsp. nov." - Rothschild 1910: 185. Type locality: "Penang, ..." [= Malaysia: Penang].

= *Rh.[odogastria] astreus* Drury *druryi* subsp. nov." - Rothschild 1914: 261. Type locality: "Moluccas and Malayan Islands." [= Indonesia: Maluku Islands].

= *Rh.[odogastria] astreus* Drury *novaeuguineae* subsp. nov." - Rothschild 1914: 261. Type locality: "New Guinea." [= New Guinea Island].

= *Rh.[odogastria] astreus* Drury *dohertyi* subsp. nov." - Rothschild 1914: 261. Type locality: "Island of Bali" [= Indonesia: Bali].

= "*Rhodogastria communis minor* subsp. nov." - Rothschild 1916: 333 Type locality: "Vulcan Island" [= Papua New Guinea: East New Britain Province, Vulcan Island].

Material examined: 2♂, 2♀ (Plate 124 figs 5-8), Indonesia, Papua, Genyem env., 02°38'S, 140°10'E, 500 m, 31.XII.2008; 1♂, 1♀, same locality, 27.I.2009; 1♂, same locality, 27-30.I.2009; 1♀, same locality, 31.I.2009; 1♂ (Plate 124 figs 1-2), same locality, 25.I-02.II.2009; 1♀ (Plate 124 figs 3-4), same locality and date.

Note: This species superficially looks like *A. timolis* (Rithschild, 1914), but can be distinguished from it by the somewhat paler coloration of the wings. Besides that, males of *A. timolis* have a round hindwing while in *A. astreus* it is triangular. This seems to be the most common species of the genus.

Distribution: It occurs from India in the west to the islands of Fiji in the east.

***Amerila caudipennis* (Walker, 1864)** (Plate 122 figs 17-18; Plate 123 figs 1-4)

"*Cretonotos caudipennis*." - Walker 1864: 284. Type

locality: "Aru" [= Indonesia: Maluku, Aru Islands].

Material examined: 1♂, Indonesia, Papua, Taritatu riv., SE from Dabra, 03°15'S, 138°34'E, 60 m, 05-07.I.2009; 1♂ (Plate 123 figs 1-2), same locality, 05-16.I.2009; 5♂, same locality and date; 1♂ (Plate 122 figs 17-18), 5♀, Indonesia, Papua, Genyem env., 02°38'S, 140°10'E, 500 m, 25.I-02.II.2009; 4♀, same locality, 31.XII.2008; 1♀ (Plate 123 figs 3-4), same locality, 25-26.I.2009; 2♀, same locality and date; 4♀, same locality, 27-30.I.2009.

Note: This species looks very similar to the two previous ones, but differs from them by an elongated anal angle of the hindwing. It is very common species.

Distribution: It is known from New Guinea and surrounding islands ranging from Aru Islands in the southwest to Bismarck Archipelago in the northeast.

***Amerila crokeri* (MacLeay, 1826)** (Plate 123 figs 5-10)

"*Euprepia Crokeri*, (n. s.)" - MacLeay 1826: 465. Type locality: "... at sea, ..." [= Australia (?)].

= "*Amer.[ila] brachyleuca*, n. sp." - Meyrick 1886: 765. Type locality: "Cooktown, Bowen, and Gayndah, Queensland; ..." [= Australia: Queensland].

= "*Rhodogastria crokeri* [sic!] Hampson v. *kajana*" - Bryk 1913: 126. Type locality: "Kai-Innenland" [= Papua New Guinea] (Häuser, 1993).

= "*Rhodogastria crokeri novobritannica* subsp. nov." - Rothschild 1910: 184. Type locality: "New Britain." [= Papua New Guinea: Bismarck Archipelago, New Britain Island].

= "*Rhodogastria crokeri salomonis*" - Rothschild 1910: 184. Type locality: "Solomon Islands: Guadalcanar ...; Florida, ... Isabel, ... Guizo, ...; Tulagi ..." [= Solomon Islands].

= "*Rh.[odogastria] crokeri Macleay bakeri* subsp. nov." - Rothschild 1914: 262. Type locality: "New Guinea." [= Island of New Guinea].

Material examined: 1♂ (Plate 123 figs 7-8), Indonesia, Papua, Genyem env., 02°38'S, 140°10'E, 500 m, 31.XII.2008; 1♂, same locality and date; 1♂ (Plate 123 figs 5-6), same locality, 30.I.2009; 1♂, same locality and date; 1♂, 3♀, same locality, 25.I-02.II.2009; 1♀ (Plate 123 figs 9-10), same locality, 25-26.I.2009; 1♀, same locality and date; 3♀, same locality, 27-30.I.2009; 1♀, same locality, 31.I.2009.

Note: Superficially, this species is very similar to the next species, but it easily differs from it by the





white coloration of the abdomen ventrally. This species is divided at least into four subspecies, of which the subspecies *bakeri* Rothschild, 1914 inhabits New Guinea.

Distribution: This species occurs in the islands of New Guinea, New Britain, northeastern Australia and the Solomon Islands.

***Amerila nigropunctata* (Bethune-Baker, 1908)**  
(Plate 123 figs 11-16)

"*Rhodogastria nigropunctata* spec. nov." - Bethune-Baker 1908: 191. Type locality: "Ekeikei and all other places where we had collections from" [= Papua New Guinea].

Material examined: 1♂, 1♀, Indonesia, Papua, Genyem env., 02°38'S, 140°10'E, 500 m, 31.XII.2008; 1♂ (Plate 123 figs 11-12), same locality, 25.I.2009; 1♂ (Plate 123 figs 15-16), same locality, 25-26.I.2009; 1♂ (Plate 123 figs 13-14), same locality, 30.I.2009.

Note: Habitually, this species looks like the previous species, from which it can be distinguished by the pink-red abdomen ventrally. This seems to be a rather rare species known from a few localities only (De Vos 2013).

Distribution: At present, this species is considered to be an endemic to the island of New Guinea.

***Amerila timolis* (Rothschild, 1914)** (Plate 124 figs 9-18)

"*Rh.[odogastria] timolis* Trnr." - Rothschild 1914: 262, pl. 25, rows d, e. Type locality: "Queensland (Australia)." [= Australia: Queensland].

= "*Rh.[odogastria] timolis* Trnr. *papuana* subsp. nov." - Rothschild 1914: 262, pl. 25, row d. Type locality: "New Guinea." [= Island of New Guinea ].

= "*Rhodogastria timiolis*, n. sp." - Turner 1915: 20. Type locality: "Kuranda, near Cairns ..., Townsville ..." [= Australia: Queensland, Kuranda, Townsville].

= "*Rhodogastria timolis tenebrosa* subsp. nov." - Rothschild 1916: 333. Type locality: "Vulcan Island" [=Papua New Guinea: East New Britain Province, Vulcan Island].

Material examined: 2♂ (Plate 124 figs 9-12), 5♀, Indonesia, Papua, Genyem env., 02°38'S, 140°10'E, 500 m, 25.I-02.II.2009; 2♀ (Plate 124 figs 15-18), same locality and date; 2♀, same locality, 30.XII.2008-02.I.2009; 1♀ (Plate 124 figs 13-14), same locality, 25-26.I.2009; 2♀, same locality and date; 1♀, same locality, 27.I.2009; 4♀, same locality, 27-30.I.2009; 1♀, Indonesia,

Papua, Sentani env., Cyclops Mts., 02°32'S, 140°28'E, 300 m, 04-06.II.2009.

Note: Superficially, this species is similar to *A. arthusibertrandi* (Guérin-Méneville, 1831) and *A. atreus* (Drury, 1773), but it can be distinguished by both the coloration and shape of the hindwing. This species is divided into two subspecies, of which the subspecies *papuana* Rothschild populates the island of New Guinea.

Distribution: It is known from Papua New Guinea and Queensland, Australia.

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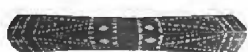


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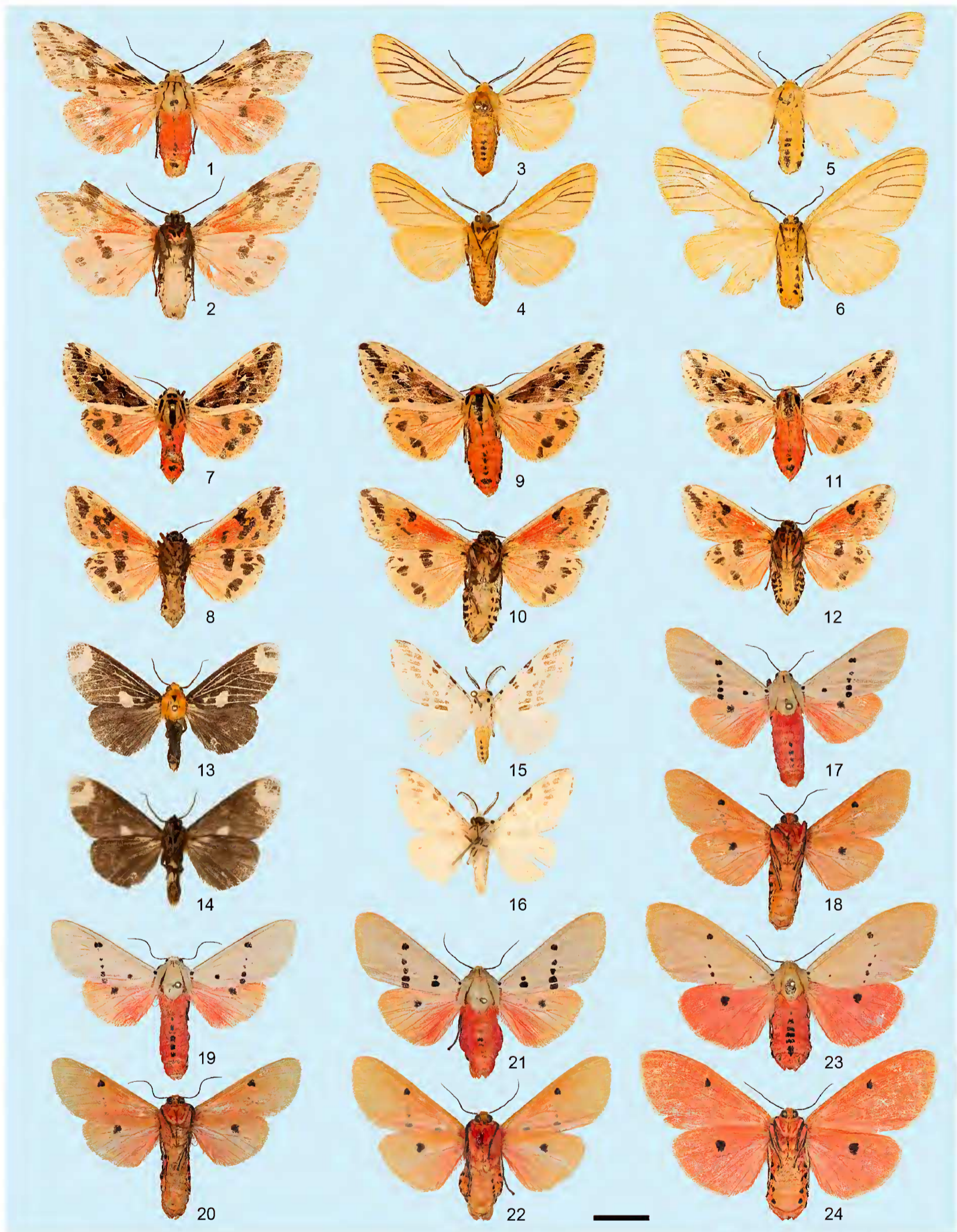
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Plate 120

ZAMESOV, A.N., GORBUNOV, O.G.: Tiger moths (Lepidoptera: Arctiidae: Arctiinae) of Papua Province, Indonesia ...



Figures 1-24. Habitus of Papuan Arctiidae. 1-2 - *Spilosoma dinawa* (Bethune-Baker, 1904). 1 - ♀, Papua, Genyem env.; 2 - ditto, underside; 3-6 - *Spilosoma costata* (Boisduval, 1832). 3 - ♂, same locality; 4 - ditto, underside; 5 - ♀, same locality; 6 - ditto, underside; 7-12 - *Spilaethalida turbida* (Butler, 1882). 7 - ♂, Papua, Cyclops Mts.; 8 - ditto, underside; 9 - ♀, same locality; 10 - ditto, underside; 11 - ♂, same locality; 12 - ditto, underside; 13-14 - *Spilosoma styx* (Bethune-Baker, 1910). 13 - ♂, Papua, Dabra env.; 14 - ditto, underside; 15-16 - *Lemyra punctatostrigata* (Bethune-Baker, 1904). 15 - ♂, Papua, Genyem env.; 16 - ditto, underside; 17-24 - *Nicetosoma papuana* (Rothschild, 1910). 17 - ♂, same locality; 18 - ditto, underside; 19 - ♂, Papua, Cyclops Mts.; 20 - ditto, underside; 21 - ♂, Papua, Genyem env.; 22 - ditto, underside; 23 - ♀, Papua, Dabra env.; 24 - ditto, underside [scale bar 10 mm].



Plate 121

ZAMESOV, A.N., GORBUNOV, O.G.: Tiger moths (Lepidoptera: Arctiidae: Arctiinae) of Papua Province, Indonesia ...

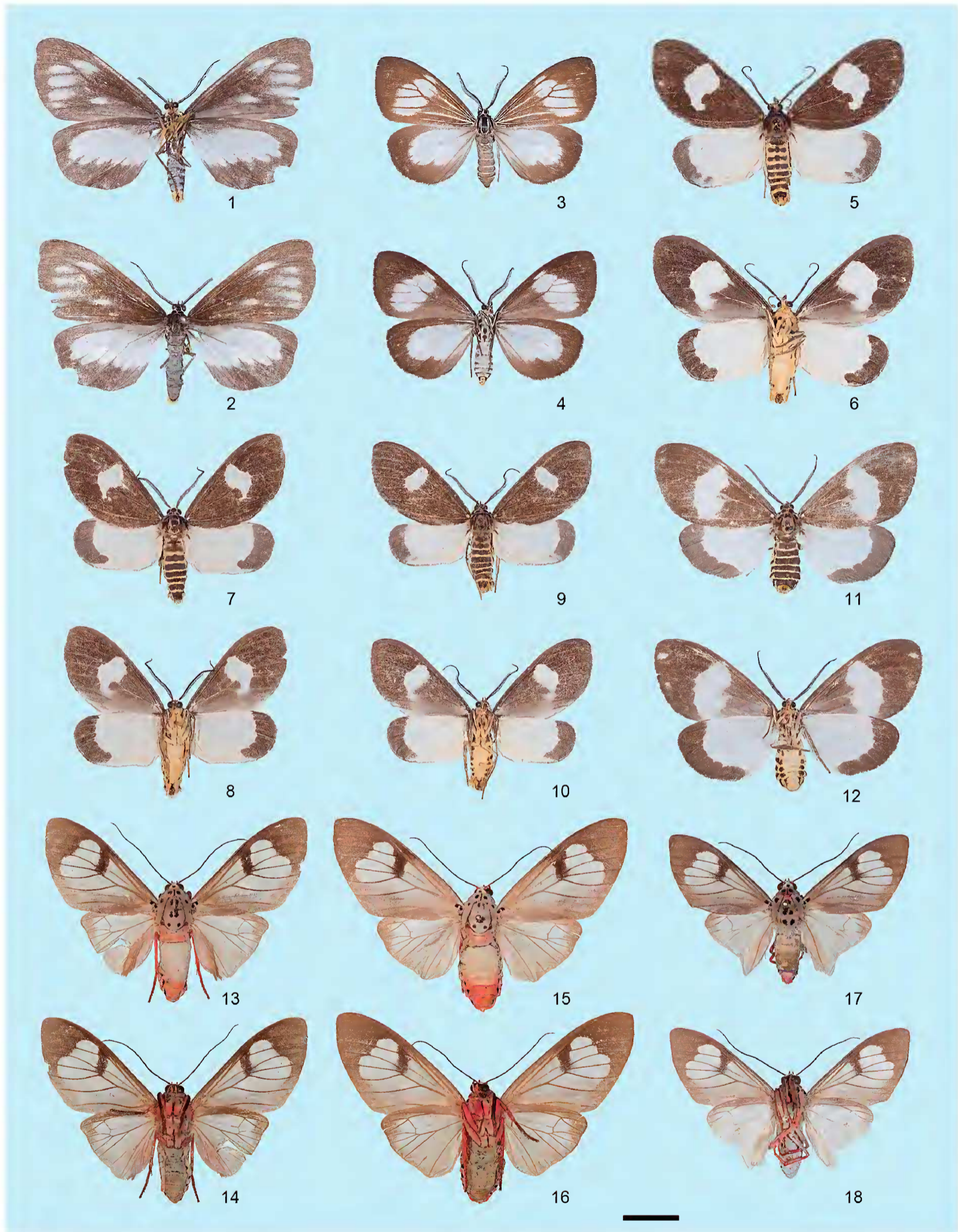


Figures 1-24. Habitus of Papuan Arctiidae. 1-4 - *Argina astrea* (Drury, 1773). 1 - ♂, Papua, Cyclops Mts.; 2 - ditto, underside; 3 - ♂, same locality; 4 - ditto, underside; 5-16 - *Utetheisa pellex* (Linnaeus, 1758). 5 - Papua, Genyem env.; 6 - ditto, underside; 7 - same locality; 8 - ditto, underside; 9 - ♀, same locality; 10 - ditto, underside; 11 - same locality; 12 - ditto, underside; 13 - same locality; 14 - ditto, underside; 15 - ♀, same locality; 16 - ditto, underside; 17-24 - *Nyctemera baulus* (Boisduval, 1832). 17 - ♂, Papua, Genyem env.; 18 - ditto, underside; 19 - ♂, same locality; 20 - ditto, underside; 21 - ♀, same locality; 22 - ditto, underside; 23 - same locality; 24 - ditto, underside [scale bar 10 mm].



Plate 122

ZAMESOV, A.N., GORBUNOV, O.G.: Tiger moths (Lepidoptera: Arctiidae: Arctiinae) of Papua Province, Indonesia ...

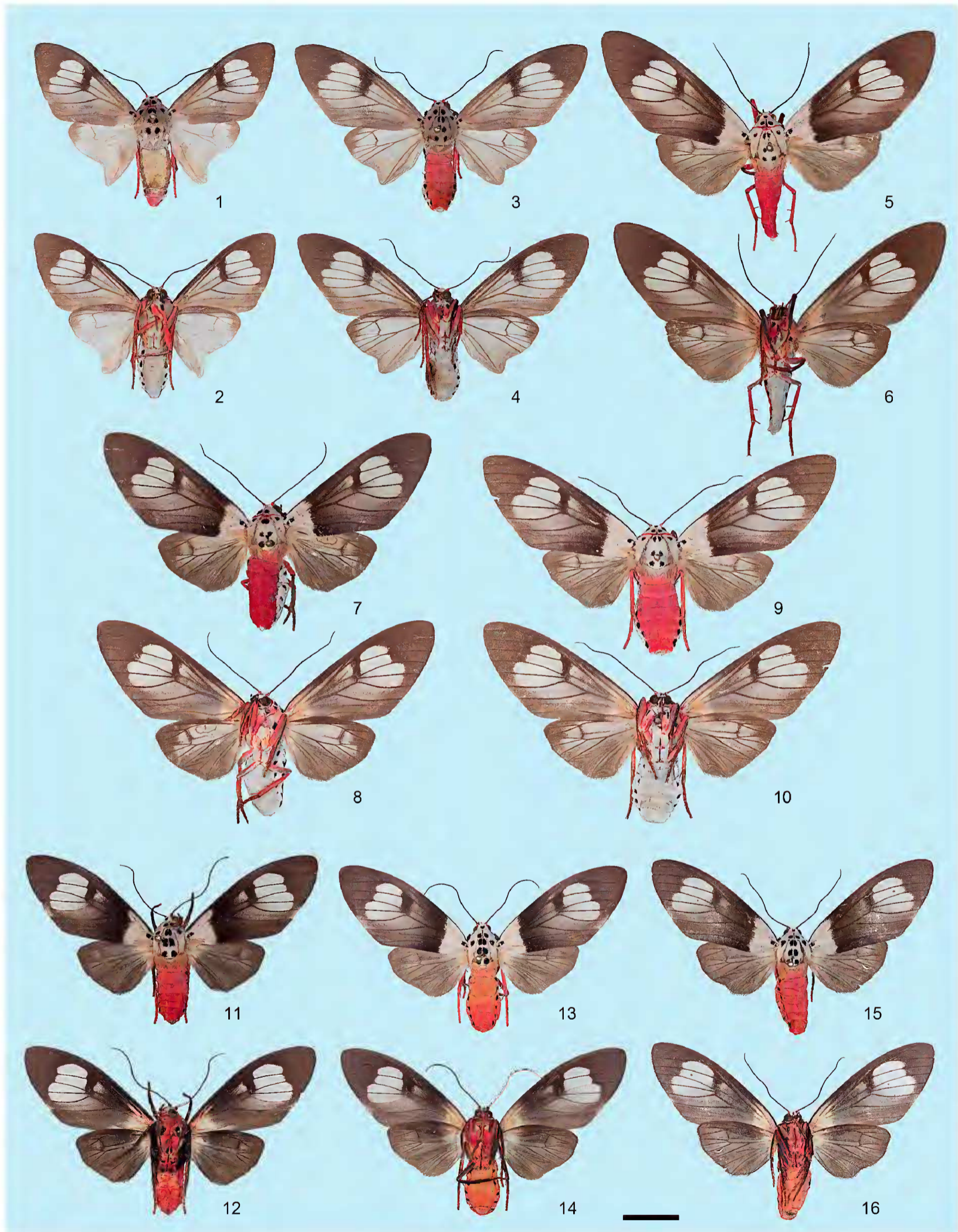


Figures 1-18. Habitus of Papuan Arctiidae. 1-2 - *Nyctemera groenendaeli* De Vos, 1995. 1 - Papua, Genyem env.; 2 - ditto, underside; 3-4 - *Nyctemera latimargo* (Rothschild, 1915). 3 - ♂, Papua, Genyem env.; 4 - ditto, underside; 5-12 - *Nyctemera evergista* (Stoll, 1781). 5 - ♂, Papua, Genyem env.; 6 - ditto, underside; 7 - ♂, same locality; 8 - ditto, underside; 9 - ♂, same locality; 10 - ditto, underside; 11 - ♀, same locality; 12 - ditto, underside; 13-16. *Amerila arthusibertrandi* (Guérin-Méneville, 1831). 13 - ♂, Papua, Genyem env.; 14 - ditto, underside; 15 - same locality; 16 - ditto, underside; 17-18 - *Amerila caudipennis* (Walker, 1864). 17 - ♂, Papua, Genyem env.; 18 - ditto, underside [scale bar 10 mm].



Plate 123

ZAMESOV, A.N., GORBUNOV, O.G.: Tiger moths (Lepidoptera: Arctiidae: Arctiinae) of Papua Province, Indonesia ...

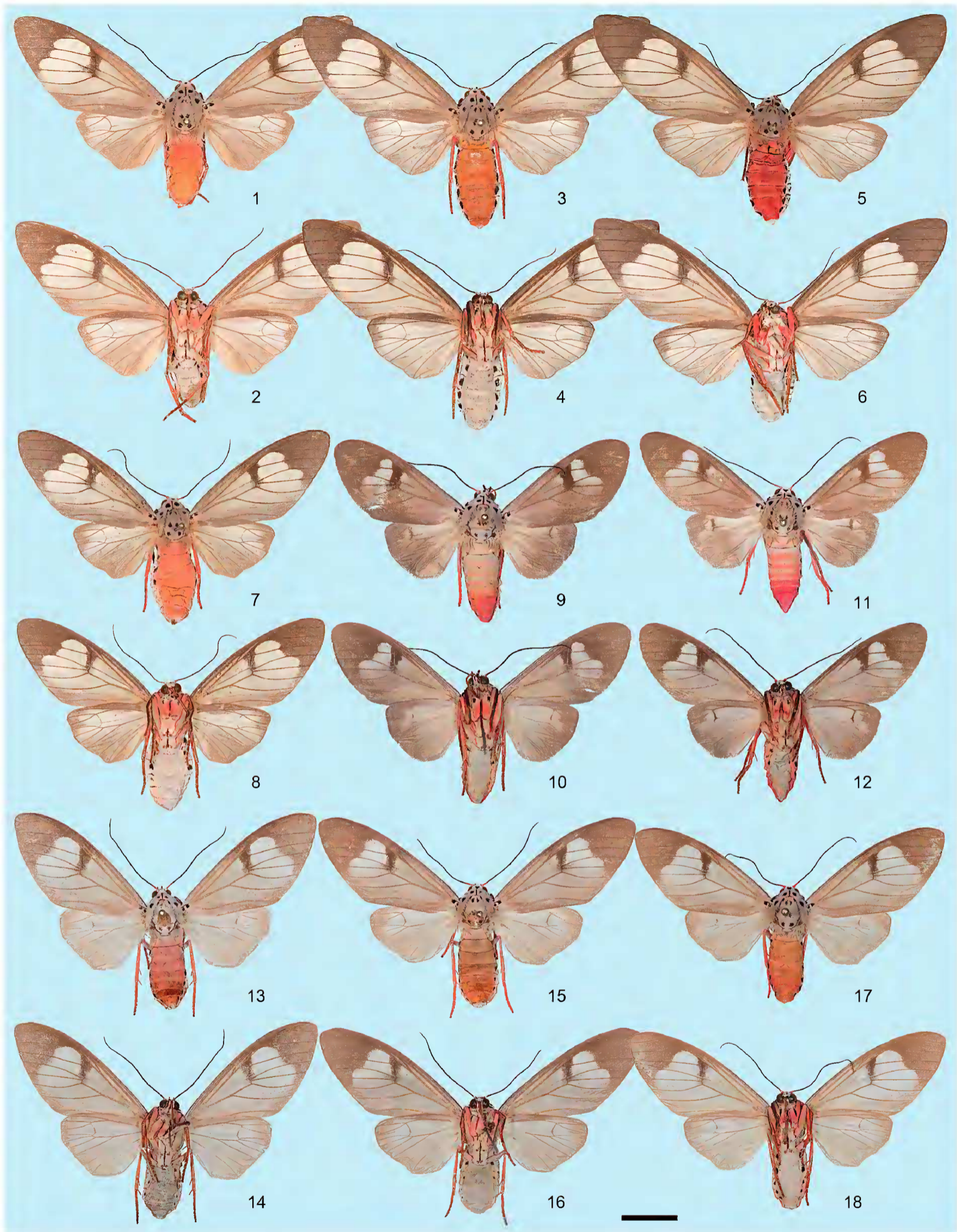


Figures 1-16. Habitus of Papuan Arctiidae. 1-4 - *Amerila caudipennis* (Walker, 1864). 1 - ♂, Papua, Dabra env.; 2 - ditto, underside; 3 - ♀, Papua, Genyem env.; 4 - ditto, underside; 5-10 - *Amerila crokeri* (MacLeay, 1826). 5 - ♂, Papua, Genyem env.; 6 - ditto, underside; 7 - ♂, same locality; 8 - ditto, underside; 9 - ♀, same locality; 10 - ditto, underside; 11-16 - *Amerila nigropunctata* (Bethune-Baker, 1908). 11 - ♂, Papua, Genyem env.; 12 - ditto, underside; 13 - ♂, same locality; 14 - ditto, underside; 15 - ♂, same locality; 16 - ditto, underside [scale bar 10 mm].



Plate 124

ZAMESOV, A.N., GORBUNOV, O.G.: Tiger moths (Lepidoptera: Arctiidae: Arctiinae) of Papua Province, Indonesia ...



Figures 1-18. Habitus of Papuan Arctiidae. 1-8 - *Amerila astreus* (Drury, 1773). 1 - ♂, Papua, Genyem env.; 2 - ditto, underside; 3 - ♀, same locality; 4 - ditto, underside; 5 - ♀, same locality; 6 - ditto, underside; 7 - ♀, same locality; 8 - ditto, underside; 9-18 - *Amerila timolis* (Rothschild, 1914). 9 - ♂, Papua, Genyem env.; 10 - ditto, underside; 11 - ♂, same locality; 12 - ditto, underside; 13 - ♀, same locality; 14 - ditto, underside; 15 - same locality; 16 - ditto, underside; 17 - ♀, same locality; 18 - ditto, underside [scale bar 10 mm].